WHAT IS CLAIMED IS:

1. A computer-implemented method for deciding whether to make an item in-house or to buy the item from outside suppliers, comprising:

launching a workflow to enforce a series of steps for arriving at the make or buy decision, the series of steps including:

generating a market specification describing the item to be made in-house or purchased from outside suppliers;

estimating a market volume for the item described in the market specification;

deriving a materials requirement plan from the generated market specification and the estimated market volume;

developing an engineering specification defining the item from the generated market specification;

establishing a purchase price to buy the item;

estimating a unit cost for producing the item in-house and determining a unit opportunity cost from the established purchase price to buy the item and the estimated in-house unit cost;

extending the unit opportunity cost by the quantity of the item specified in the material requirement plan to determine a gross opportunity cost;

estimating a cost of acquiring a production capacity to produce the item in-house, and

determining to make the item in-house if a net present value of the gross opportunity cost is more than the estimate cost of acquiring the production capacity, otherwise determining to buy the item from at least one of the outside suppliers.

2. The computer-implemented method of claim 1, wherein the materials requirement plan includes a bill of materials detailing components and sub-components

needed to build the item, current inventory of the components and sub-components and an amount of the components and sub-components that must be purchased, phased over time.

3. The computer-implemented method of claim 1, wherein the engineering specification includes a technical description of the item and of any tooling, plant layout and materials needed to produce the item.

4. The computer-implemented method of claim 1, wherein the establishing step includes at least one step of:

determining whether an item matching or substantially matching requirements defined in the engineering specification is available from the outside suppliers; and

placing the item defined in the engineering specification up for bid by the external suppliers.

5. The computer-implemented method of claim 1, further including a step of carrying out a financial justification calculation, the financial justification calculation being a difference between the net present value of the gross opportunity costs and the estimated cost of acquiring the production capacity to produce the item in-house.

6. The computer-implemented method of claim 1, wherein when it is determined to make the item in-house, further carrying out a step of scoring the gross opportunity cost according to how aligned making the item in-house is with non-financial criteria.

7. The computer-implemented method of claim 1, wherein the step of estimating the unit cost for producing the item in-house includes at least one of a cost of a plant and equipment needed to manufacture the item, a factory layout cost and a building cost.

8. The computer-implemented method of claim 6, wherein the non-financial criteria include process technology advantage, tooling technology advantage, volume and intellectual property protection.

9. A machine-readable medium having data stored thereon representing sequences of instructions which, when executed by a computer, causes the computer to carry out a method for deciding whether to make an item in-house or to buy the item from outside suppliers by carrying out steps of:

launching a workflow to enforce a series of steps for arriving at the make or buy decision, the series of steps including:

generating a market specification describing the item to be made in-house or purchased from outside suppliers;

estimating a market volume for the item described in the market specification;

deriving a materials requirement plan from the generated market specification and the estimated market volume;

developing an engineering specification defining the item from the generated market specification;

establishing a purchase price to buy the item;

estimating a unit cost for producing the item in-house and determining a unit opportunity cost from the established purchase price to buy the item and the estimated in-house unit cost;

extending the unit opportunity cost by the quantity of the item specified in the material requirement plan to determine a gross opportunity cost;

estimating a cost of acquiring a production capacity to produce the item in-house, and

determining to make the item in-house if a net present value of the gross opportunity cost is more than the estimate cost of acquiring the production capacity, otherwise determining to buy the item from at least one of the outside suppliers.

10. A computer system for making a decision whether to make an item in-house or to buy the item from outside suppliers, comprising:

a processor;

at least one data storage device coupled to the processor;

a plurality of processes spawned by said at least one processor, the processes including processing logic for:

launching a workflow to enforce a series of steps for arriving at the make or buy decision, the series of steps including:

generating a market specification describing the item to be made in-house or purchased from outside suppliers;

estimating a market volume for the item described in the market specification;

deriving a materials requirement plan from the generated market specification and the estimated market volume;

developing an engineering specification defining the item from the generated market specification;

establishing a purchase price to buy the item;

estimating a unit cost for producing the item in-house and determining a unit opportunity cost from the established purchase price to buy the item and the estimated in-house unit cost;

extending the unit opportunity cost by the quantity of the item specified in the material requirement plan to determine a gross opportunity cost;

estimating a cost of acquiring a production capacity to produce the item in-house, and

determining to make the item in-house if a net present value of the gross opportunity cost is more than the estimate cost of acquiring the production capacity, otherwise determining to buy the item from at least one of the outside suppliers.

11. A computer-implemented method for determining an optimal timing for implementing an engineering change order that replaces a more expensive component with a less expensive component, comprising:

launching a workflow to enforce a series of steps for determining the optimal timing, the series of steps including:

generating a market specification describing the component affected by the engineering change order;

estimating a market volume for the component described in the market specification;

developing an engineering specification defining the component affected by the engineering change order;

estimating in-house unit costs for the component affected by the engineering change order;

developing an engineering change proposal from the developed engineering specification;

from the developed engineering change proposal and the estimated in-house unit cost, estimating a revised in-house unit cost for the component affect by the engineering change order;

from the revised in-house unit cost, determining a unit opportunity cost for the component affected by the engineering change order as a difference between a cost of the component before and after implementation of the engineering change order;

from the developed engineering specification and the developed engineering change proposal, deriving a materials requirement plan;

extending the unit opportunity cost by a quantity of the components required as specified by the materials requirement plan to determine a gross opportunity cost for the component affected by the engineering change order;

determining an obsolescence cost from the materials requirement plan, and

determining the optimal timing to implement the engineering change order by calculating when a present value of the gross opportunity cost of replacing the more expensive component with the less expensive component is equal to or greater than the determined obsolescence cost of the replaced component.

12. The computer-implemented method of claim 11, wherein the materials requirement plan includes a bill of materials detailing components and sub-components needed to implement the engineering change order, current inventory of the components and sub-components and an amount of the components and sub-components that must be purchased, over time.

13. The computer-implemented method of claim 11, wherein the engineering specification includes a technical description of the component and of any tooling, plant layout and materials needed to implement the engineering change order.

14. A machine-readable medium having data stored thereon representing sequences of instructions which, when executed by a computer, causes the computer to carry out a method for determining an optimal timing for implementing an engineering change order that replaces a more expensive component with a less expensive component by carrying out steps of:

launching a workflow to enforce a series of steps for determining the optimal timing, the series of steps including:

generating a market specification describing the component affected by the engineering change order;

estimating a market volume for the component described in the market specification;

developing an engineering specification defining the component affected by the engineering change order;

estimating in-house unit costs for the component affected by the engineering change order;

developing an engineering change proposal from the developed engineering specification;

from the developed engineering change proposal and the estimated in-house unit cost, estimating a revised in-house unit cost for the component affect by the engineering change order;

from the revised in-house unit cost, determining a unit opportunity cost for the component affected by the engineering change order as a difference between a cost of the component before and after implementation of the engineering change order;

from the developed engineering specification and the developed engineering change proposal, deriving a materials requirement plan;

extending the unit opportunity cost by a quantity of the components required as specified by the materials requirement plan to determine a gross opportunity cost for the component affected by the engineering change order;

determining an obsolescence cost from the materials requirement plan, and

determining the optimal timing to implement the engineering change order by calculating when a present value of the gross opportunity cost of replacing the more

expensive component with the less expensive component is equal to or greater than the determined obsolescence cost of the replaced component.

15. A computer system for determining an optimal timing for implementing an engineering change order that replaces a more expensive component with a less expensive component, comprising:

a processor;

at least one data storage device coupled to the processor;

a plurality of processes spawned by said at least one processor, the processes including processing logic for:

launching a workflow to enforce a series of steps for determining the optimal timing, the series of steps including:

generating a market specification describing the component affected by the engineering change order;

estimating a market volume for the component described in the market specification;

developing an engineering specification defining the component affected by the engineering change order;

estimating in-house unit costs for the component affected by the engineering change order;

developing an engineering change proposal from the developed engineering specification;

from the developed engineering change proposal and the estimated in-house unit cost, estimating a revised in-house unit cost for the component affect by the engineering change order;

from the revised in-house unit cost, determining a unit opportunity cost for the component affected by the engineering change order as a difference between a cost of the component before and after implementation of the engineering change order;

from the developed engineering specification and the developed engineering change proposal, deriving a materials requirement plan;

extending the unit opportunity cost by a quantity of the components required as specified by the materials requirement plan to determine a gross opportunity cost for the component affected by the engineering change order;

determining an obsolescence cost from the materials requirement plan, and

determining the optimal timing to implement the engineering change order by calculating when a present value of the gross opportunity cost of replacing the more expensive component with the less expensive component is equal to or greater than the determined obsolescence cost of the replaced component.